

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. - 4. (Cancelled.)

5. (Currently Amended) ~~The cell search circuit of claim 3~~ A cell search circuit comprising:

a code correlator configured to correlate a received signal with a primary synchronization code;

an auxiliary code correlator having a substantially similar length as the code correlator configured to correlate the received signal with a code having a low cross correlation with the primary synchronization code; and

a scaling circuit configured to scale an output of the correlation with the primary synchronization code by an output of the auxiliary code correlator;

wherein the code having a low cross correlation with the primary synchronization code has a low cross correlation with secondary synchronization codes.

6. (Currently Amended) ~~The cell search circuit of claim 3~~ A cell search circuit comprising:

a code correlator configured to correlate a received signal with a primary synchronization code;

an auxiliary code correlator having a substantially similar length as the code correlator configured to correlate the received signal with a code having a low cross correlation with the primary synchronization code; and

a scaling circuit configured to scale an output of the correlation with the primary synchronization code by an output of the auxiliary code correlator wherein the scaling circuit comprises a circuit performing a division function.

7. (Currently Amended) ~~The cell search circuit of claim 3 comprising~~ A cell search circuit comprising:

a code correlator configured to correlate a received signal with a primary synchronization code;

an auxiliary code correlator having a substantially similar length as the code correlator configured to correlate the received signal with a code having a low cross correlation with the primary synchronization code;

a scaling circuit configured to scale an output of the correlation with the primary synchronization code by an output of the auxiliary code correlator; and

at least one additional code correlator configured to correlate ~~for correlating~~ the received signal with a primary synchronization code, the code correlator and each at least one additional code correlator configured to process ~~processing~~ a respective set of samples corresponding to a respective multiple ~~N~~ of a chip rate of the samples.

8. (Currently Amended) The cell search circuit of claim 7 wherein the auxiliary code correlator is configured to receive only ~~receives~~ one set of the respective sets of samples.

9. (Currently Amended) A cell search circuit comprising:

a code correlator configured to correlate ~~for correlating~~ a received signal with a primary synchronization code;

an accumulator configured to accumulate ~~for accumulating~~ a result of the correlations of the received signal with a primary synchronization code;

a noise estimation circuit configured to estimate ~~for estimating~~ noise; and

a computational circuit configured to ~~for~~ functionally divide ~~dividing~~ the accumulated result with the estimated noise by:

determining an index of the accumulated result indicating a most significant bit;

determining an index of the estimated noise indicating a most significant bit;

subtracting the estimated noise index from the accumulated result index; and

using a result of the subtraction to determine a division of the accumulated result by the noise estimate.

10. (Currently Amended) The cell search circuit of claim 9 wherein the computational circuit is further comprising taking ~~configured to take~~ a log of n bits at and following each index in the accumulated result and the estimated noise and ~~subtracting to subtract~~ the log of the n bits of the estimated noise from the log of the n bits of the accumulated result to determine a division of the accumulated result by the noise estimate.

11. (Currently Amended) The cell search circuit of claim 10 wherein the computational circuit is configured to take ~~taking~~ a log of the n bits is by using a look-up table for n-1 bit after the index.

12. (Currently Amended) A wireless transmit/receive unit (WTRU) for performing cell search comprising:

a splitter configured to receive ~~receiving~~ received samples, ~~and outputting~~  
and to output a plurality of N sample sets;

N circuits receiving respective ones of the sample sets and providing  
respective absolute value outputs corresponding to a primary synchronization code  
correlation to each sample set;

N circuits providing accumulated values corresponding to the respective  
absolute value outputs; and

N circuits for dividing the accumulated values with an estimated noise value,  
and providing ratios of the accumulated values to the threshold.

13. (Currently Amended) The WRTU of claim 12 wherein ~~a value of N is two~~  
and the splitter is configured to output ~~sample sets are an even and odd sample set~~  
sets.

14. - 15. (Cancelled)

16. (Currently Amended) ~~The WTRU of claim 14~~ A wireless transmit/receive  
unit (WTRU) for performing cell search comprising:

a code correlator configured to correlate a received signal with a primary  
synchronization code;

an auxiliary code correlator having a substantially similar length as the code  
correlator configured to correlate the received signal with a code having a low cross  
correlation with the primary synchronization code; and

a scaling circuit configured to scale an output of the correlation with the  
primary synchronization code by an output of the auxiliary code correlator;

wherein the code having a low cross correlation with the primary synchronization code has a low cross correlation with secondary synchronization codes.

17. (Currently Amended) ~~The WTRU of claim 14~~ A wireless transmit/receive unit (WTRU) for performing cell search comprising:

a code correlator configured to correlate a received signal with a primary synchronization code;

an auxiliary code correlator having a substantially similar length as the code correlator configured to correlate the received signal with a code having a low cross correlation with the primary synchronization code; and

a scaling circuit configured to scale an output of the correlation with the primary synchronization code by an output of the auxiliary code correlator wherein the scaling circuit comprises a circuit performing a division function.

18. (Currently Amended) ~~The WTRU of claim 14~~ A wireless transmit/receive unit (WTRU) for performing cell search comprising:

a code correlator configured to correlate a received signal with a primary synchronization code;

an auxiliary code correlator having a substantially similar length as the code correlator configured to correlate the received signal with a code having a low cross correlation with the primary synchronization code;

a scaling circuit configured to scale an output of the correlation with the primary synchronization code by an output of the auxiliary code correlator; and

at least one additional code correlator configured to correlate for correlating the received signal with a primary synchronization code, the code correlator and each at least one additional code correlator configured to process processing a

respective set of samples corresponding to a respective multiple  $N$  of a chip rate of the samples.

19. (Currently Amended) The WTRU of claim 18 wherein the auxiliary code correlator is configured to receive only ~~receives~~ one set of the respective sets of samples.

20. (Currently Amended) A wireless transmit/receive unit for performing cell search comprising:

a code correlator configured to correlate ~~for correlating~~ a received signal with a primary synchronization code;

an accumulator configured to accumulate ~~for accumulating~~ a result of the correlations of the received signal with a primary synchronization code;

a noise estimation circuit configured to estimate ~~for estimating~~ noise; and

a computational circuit configured to ~~for~~ functionally divide ~~dividing~~ the accumulated result with the estimated noise by:

determining an index of the accumulated result indicating a most significant bit;

determining an index of the estimated noise indicating a most significant bit;

subtracting the estimated noise index from the accumulated result index; and

using a result of the subtraction to determine a division of the accumulated result by the noise estimate.

21. (Currently Amended) The WTRU of claim 20 wherein the computational circuit is further comprising taking configured to take a log of  $n$  bits at and following each index in the accumulated result and the estimated noise and ~~subtracting~~ to subtract the log of the  $n$  bits of the estimated noise from the log of

the n bits of the accumulated result to determine a division of the accumulated result by the noise estimate.

22. (Currently Amended) The WTRU of claim 21 wherein the computational circuit is configured to take ~~taking~~ a log of the n bits is by using a look-up table for n-1 bit after the index.